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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/789,304	02/27/2004	Hiroaki Murai	3408.69858	7629

7590 09/20/2007  
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EXAMINER

DARE, RYAN A

ART UNIT	PAPER NUMBER
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2186

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09/20/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/789,304	Applicant(s) MURAI ET AL.	
	Examiner Ryan Dare	Art Unit 2186	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 03 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>6/7/07</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Drawings*

1. The replacement drawings submitted 8/03/07 overcome the corresponding objections.

### *Claim Rejections - 35 USC § 112*

2. The amendments to the claims submitted 8/03/07 overcome the corresponding rejections under 35 U.S.C. 112.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-3, 5-6, 8-12, 14-15 and 17-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Chu et al., US PGPub 2005/0078395.
5. With respect to claim 1, Chu teaches a write processing method for stream type commands for writing write data to a storage medium by a head according to the stream type command, comprising the steps of:

writing received write data of said stream type commands to a buffer, in pars. 29-30;

writing the write data of said buffer sequentially to sectors of said storage medium by said head while confirming whether the writing succeeded, in pars. 31 and 36;

skipping a sector where said writing did not succeed in said writing step, in par. 36;

protecting the write data in the sector where writing did not succeed by said buffer, in pars. 38-39, where the when data is skipped it remains in the buffer until it is eventually written after the skip, and is thus protected; and

writing the write data of said protected sectors to said storage medium by said head after said stream type commands are executed, in pars. 38-39.

6. With respect to claim 2, Chu teaches the write processing method for stream type commands according to claim 1, further comprising a step of restarting the write processing of said head after stopping the write processing to said storage medium when said writing did not succeed, in pars. 38-39.

7. With respect to claim 3, Chu teaches the write processing method for stream type commands according to claim 2, wherein said protect step comprises a step of protecting the write data of the sector where said writing did not succeed and the sector for which writing was skipped until restart, in pars. 38-39.

8. With respect to claim 5, Chu teaches the write processing method for stream type commands according to claim 1, wherein said-protect step comprises a step of

storing the sector where said writing did not succeed and the address of said buffer of the write data of said sector in a protect table, in pars. 43-45.

9. With respect to claim 6, Chu teaches the write processing method for stream type commands according to claim 5, wherein the step of writing the write data of said protected sector comprises a step of writing the write data of said buffer in reference to said protect table, in pars. 43-45.

10. With respect to claim 8, Chu teaches the write processing method for stream type commands according to claim 1, wherein said storage medium comprises a rotating disk medium, in par. 13.

11. With respect to claim 9, Chu teaches the write processing method for stream type commands according to claim 1, wherein said protect step comprises a step of recognizing that said command is said stream type command and executing said protection when said writing did not succeed, in par. 46.

12. With respect to claims 10-12, 14-15 and 17-18, Applicant claims a medium storage apparatus which corresponds to the method of claims 1-3, 5-6 and 8-9, and is therefore rejected using similar logic.

### ***Claim Rejections - 35 USC § 103***

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

15. Claims 4 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chu as applied to claims 1 and 10 above, in view of Yang, US PGPub 2004/0264030.

16. With respect to claim 4, Chu teaches all limitations of the parent claim, but fails to teach data writing retries. Yang teaches the write processing method for stream type commands according to claim 1, wherein said step of writing the write data of said protected sector comprises a step of enabling a predetermined number of times of retries when the writing of said write data did not succeed, in pars. 12-13.

17. It would have been obvious to one of ordinary skill in the art having the teachings of Chu and Yang before him at the time the invention was made, to modify the disk writing method of Chu with the disk writing method of Yang in order to retry writing data to the sector an optimal number of times since retries frequently fail, as taught by Yang in par. 13.

18. Claims 7 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chu as applied to claims 1-3 and 10-12 above, in view of Kakiyama et al., US PGPub 2004/0210711.

19. With respect to claim 7, Chu teaches all limitations of the parent claims, but fails to teach calculating the shortest start sector. Kakiyara teaches the write processing method for stream type commands according to claim 3, wherein said protect step comprises: a step of calculating the shortest start sector in terms of the time up to said restart after said write processing is stopped; and a step of protecting the write data of the sector where said writing did not succeed and the sector where writing was skipped up to said restart obtained from said calculation result, in par. 5

20. It would have been obvious to one of ordinary skill in the art having the teachings of Chu and Kakiyara before him at the time the invention was made, to modify the disk writing method of Chu with the disk writing method of Kakiyara in order to improve the performance of read and write operations on the disk drive, as taught by Kakiyara in par. 5.

21. With respect to claims 13 and 16, Applicant claims a medium storage apparatus which corresponds to the method of claims 4 and 7, and is therefore rejected using similar logic.

### ***Response to Arguments***

22. Applicant's arguments with respect to claims 1-18 have been considered but are moot in view of the new ground(s) of rejection.

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan Dare whose telephone number is (571)272-4069. The examiner can normally be reached on Mon-Fri 9:30-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matt Kim can be reached on (571)272-4182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ryan Dare/  
Ryan Dare  
September 17, 2007



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